

Ahmed BEN JMAA

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Degrees and Academic Positions

- **Ph.D. in computer science** **April 2017**
Faculty of Economic Sciences and Management *Sfax University, TUN*
 - **Title of thesis:** Extraction and recognition of human gestures: Application to the verbatim transcript of sign language.
 - **Laboratory:** Multimedia Information systems and Advanced Computing Laboratory (MIRACL), Sfax, Tunisia.
 - **Supervisor:** Pr. Abdelmajid BEN HAMADOU.
 - **Graduated with:** Very honorable.

- **M.Sc. in computer science** **2003–2005**
National Engineering School *Sfax University, TUN*
 - **Specialty:** New Technologies Dedicated Computer Systems (NTSID)
 - **Title of thesis:** Proposition of new approach for image compression using fractals.
 - **Date of defense:** 10/07/2005.

- **B.Sc. in computer science** **1998–2002**
Faculty of Economic Sciences and Management *Sfax University, TUN*
 - **Specialty:** Applied Informatics in Management.

- **Baccalaureate** **1997**
School 9 April *Sfax, TUN*
 - **Specialty:** Technique.

Teaching Experience

- **Technical and Vocational Training Corporation** **Sep. 2013 to present**
Lecturer *Saudi Arabia*
 - **Modules Taught:**
 - Database design and analysis.
 - Principales of database.
 - Computer system.
 - PHP programming.
 - IT security.
 - Advanced computer applications.

- **Higher Institute of Arts and Crafts of Tataouine** **Sep. 2009–Sep. 2013**
Lecturer *Gabes University, TUN*
 - **Modules Taught:**
 - Computer graphics (AutoCad 2D).
 - Certificate in Computers and Internet (C2I).

- **Higher Institute of Computer Science and Multimedia** **Sep. 2005–Sep. 2009**
Lecturer *Sfax University, TUN*
 - **Modules Taught:**
 - Database Management System (SGBD Oracle).
 - Microsoft Access 2000.
 - Visual Basic.
 - Language C/C++.
 - Web server administration.
 - Language theory and compiler.
 - Human-machine Interaction.

- **Private higher institute of polytechnic and advanced sciences** **Sep. 2011–Dec. 2012**
Lecturer *Sfax, TUN*
 - **Modules Taught:**
 - Algorithms and data structures.
 - Business Computer Networks.

Scientific Publications

Journal Papers.....

[J1]– Ahmed BEN JMAA, Walid MAHDI, Yousra BEN JEMAA et Abdelmajid BEN HAMADOU.
Title: A New Approach For Hand Gestures Recognition Based on Depth Map Captured by RGB-D Camera.

Abstract: *This paper presented a new approach for hand gestures recognition based on depth Map captured by an RGB-D Kinect camera. Although this camera provides two types of information "Depth Map" and "RGB Image", only the depth data information was used to analyze and recognize the hand gestures. Given the complexity of this task, we first proposed a new method based on edge detection to eliminate the noise and segment the hand. Then we introduced new descriptors modeling the hand gesture. These features are invariant to scale, rotation and translation. Our approach was applied on French sign language alphabet to show its effectiveness and evaluate the robustness of the proposed descriptors. The experimental results clearly show that the proposed system is very satisfactory and able to recognize the French alphabet sign with an accuracy of more than 93%. Our approach was also applied to a public dataset in order to be compared to existing works. The results prove that our system can outperform previous methods using the same dataset.*

Journal: Computación y Sistemas (CyS).

Indexed in: Thomson Reuters, DBLP, Scopus.

Quartile: Q2.

Impact factor: 0.253 (SJR).

Year: 2016.

[J2]– Yousra BEN JEMAA, Ahmed DERBEL et **Ahmed BEN JMAA**.

Title: 2DPCA fractal features and genetic algorithm for efficient face representation and recognition.

Abstract: *In this article, we present an automatic face recognition system. We show that fractal features obtained from Iterated Function System allow a successful face recognition and outperform the classical approaches. We propose a new fractal feature extraction algorithm based on genetic algorithms to speed up the feature extraction step. In order to capture the more important information that is contained in a face with a few fractal features, we use a bi-dimensional principal component analysis. We have shown with experimental results using two databases as to how the optimal recognition ratio and the recognition time make our system an effective tool for automatic face recognition.*

Journal: EURASIP Journal on Information Security.

Indexed in: Thomson Reuters, DBLP, Scopus.

Quartile: Q3.

Impact factor: 0.314 (SJR).

Year: 2011.

[J3]– **Ahmed BEN JMAA**, Walid MAHDI, Yousra BEN JEMAA et Abdelmajid BEN HAMADOU.

Title: A new approach for digit recognition based on hand gesture analysis.

Abstract: *We present in this paper a new approach for hand gesture analysis that allows digit recognition. The analysis is based on extracting a set of features from a hand image and then combining them by using an induction graph. The most important features we extract from each image are the fingers locations, their heights and the distance between each pair of fingers. Our approach consists of three steps: (i) Hand detection and localization, (ii) fingers extraction and (iii) features identification and combination to digit recognition. Each input image is assumed to contain only one person, thus we apply a fuzzy classifier to identify the skin pixels. In the finger extraction step, we attempt to remove all the hand components except the fingers, this process is based on the hand anatomy properties. The final step consists on representing histogram of the detected fingers in order to extract features that will be used for digit recognition. The approach is invariant to scale, rotation and translation of the hand. Some experiments have been undertaken to show the effectiveness of the proposed approach.*

Journal: International Journal of Computer Science and Information Security, Vol. 2, No. 1, Computer, vision and Pattern recognition series (IJCSIS09).

Indexed in: DBLP.

Year: 2009.

Conference & Symposium Papers.....

[C1]– **Ahmed BEN JMAA**, Walid MAHDI, Yousra BEN JEMAA et Abdelmajid BEN HAMADOU.

Title: Arabic sign language recognition based on HOG Descriptor.

Conference: 8th International Conference on Graphic and Image Processing (ICGIP'2016).

Editor: SPIE Digital Library.

Indexed in: Scopus.

Year: 2016.

[C2]– **Ahmed BEN JMAA**, Walid MAHDI, Yousra BEN JEMAA et Abdelmajid BEN HAMADOU.

Title: Hand localization and fingers features extraction: Application to digit recognition in sign language.

Conference: 10th International Conference on intelligent Data Engineering and Automated Learning

(IDEAL'2009).

Book Title: Intelligent Data Engineering and Automated Learning - IDEAL 2009

Editor: Springer-Verlag Berlin Heidelberg.

Indexed in: DBLP, Scopus.

Rank: C.

Year: 2009.

[C3]– Ahmed BEN JMAA, Yousra BEN JEMAA, Walid MAHDI et Abdelmajid BEN HAMADOU.

Title: Automatic hand localization for gesture recognition.

Conference: 4th International Symposium on Image/Video Communications over fixed and mobile networks (ISIVC'2008).

Year: 2008.

[C4]– Ahmed BEN JMAA, Maher BEN JEMAA et Yousra BEN JEMAA.

Title: Optimization of fractal image compression with genetic algorithms.

Conference: 2nd International Symposium on Communications, Control And Signal Processing (ISCCSP'2006).

Editor: Eurasip.

Indexed in: Scopus.

Year: 2006.

Participation in Workshops and Congress

- **The Sixth scientific Workshops of young researchers** **March 2006**
in electric genius and computer sciences *Hammamet, TUN*

- **The First International congress** **March 2004**
of signals, circuits and systems *Monastir, TUN*

Participation in Organizing Committees

- **International Congress of Physiology** **Since 2012**
& *Environmental Biomonitoring* *FS-Sfax, TUN*

- **Agri-Food** **Since 2014**
Scientific Days *ENI-Sfax, TUN*

Teaching coordination

- **Computer and Internet Certificate Coordinator (C2i)** **Sep. 2009–Sep. 2013**
Higher Institute of Arts and Crafts of Tataouine *Gabes University, TUN*

Training

Educational Training.....

- **The ability to plan training** **August 2015**
Saudi Arabia
Technical and Vocational Training Corporation

- **Educational training course** **April 2005**
Sfax University, TUN
National Engineering School

- **The spring university of pedagogy** **April 2004**
Université de Sfax, TUN
National Engineering School

Other Training.....

- **JAVA Programming** **May 2015**
Saudi Arabia
Technical and Vocational Training Corporation

Certifications

- **Certificate in Computers and Internet (C2I)** **December 2010**
Tunis, TUN
Virtual University of Tunis

Other Professional Experience

- **Invest Consulting & Training** **Sep. 2002–Sep. 2005**
Sfax, TUN
Analyst programmer
 - **Design & programming software:**
 - Production management.
 - Quality control of production.
 - Performance management.
 - Production management (Barcode system).
 - Movement of production lines (Mobile terminal).
 - Daily backup Tool.
 - **Networks administration:**
 - Network installation and administration (50 workstations, 4 servers, 8 VLAN).
 - Administration of SMC Switch.
 - Security network management.
 - **System management:**
 - Windows NT/2000 Installation and administration.
 - Security system management.
 - Installation and administration of messenger server (Lotus Domino).
 - Installation and administration of ISA Server.
 - **Website development:**
 - Create a dynamic web site of car rental.

- **Invest Consulting & Training** **September 2001**
Sfax, TUN
Traineeship
 - **Mission:** Development of medical dictionary.
 - **Tools:** Visual Basic, MS-Access.

- **Computech**
- *Traineeship*
 - **Mission:** Designing a tourist map of Sfax city.
 - **Tools:** Autocad, Corel Draw.

July 2001
Sfax, TUN

Computer skills

- **Programming and Markup Languages:**
 - Matlab, Visual Basic, SQL/PL-SQL, Language C/C++, Assembleur, Turbo Pascal, HTML, PHP, XML.
- **Databases Modeling:**
 - Oracle, SQL Server, MS-Access, MySql.
- **Databases Design:**
 - UML, Merise.
- **Operating system:**
 - Windows, MS-DOS, Lunix/Unix.

Divers

Languages.....

- **Arabic:** Native language.
- **French:** Written/Spoken.
- **Anglais:** Written/Spoken.

Hobbies.....

- **Sport:** Swimming, Football.
- **Travels:** USA, Turkey, Saudi Arabia.